DOCUMENT RESUME

ED 025 499 TE 000 537

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Experimenting With Transformations in the Elementary Grades.

Pub Date 68

Note- 16p.

Journal Cit- California English Journal; v4 n1 p5-19 Winter 1968

EDRS Price MF-$0.25 HC-$0.90

Descriptors- Aural Learning, Average Students, Disadvantaged Youth, *Elementary Education, *English Instruction, *Grammar, Kernel Sentences, Language Instruction, Nonstandard Dialects, Sentence Structure, Superior Students, *Teaching Techniques, *Transformation Generative Grammar, Transformations (Language), Writing Exercises

Three elementary demonstration-classes at San Fernando Valley State College were taught to perform a variety of sentence-building exercises demanding work with kernel sentences and their transforms. The primary class--a disadvantaged group--learned to manipulate questions, adjectives, and coordinating transformations. The third-fourth grade class--an average group--produced possessives, attributive adjectives, relative clauses, and questions. The fifth-sixth grade class-- a superior group--experimented with passives, "there" transformations, compound coordinates, and double-base transformations. At the end of the 6-week term, teachers aggreed that, at all elementary grade levels, children readily acquire the capacity to make transformations and that their writing profits by the exercise. (A related bibliography and examples of sentence-building exercises based on transformational grammar are included.) (JB)

California English Journal

WINTER, 1968
Vol. 4, No. 1

ED025499

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Experimenting with Transformations in the Elementary Grades

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I

Many elementary teachers in California feel as if a loaded gun were pointed at their heads. Having scarcely recovered from the shock of the new math, they are now told that starting next fall they will be teaching the "new English." They are further told that the core of the new English, at least in the *Roberts English Series,* the adoption for Grades 3-6, is transformational grammar, and they don't know transformational grammar from their left elbow.

What follows is not transformational grammar in one easy lesson, but it may be helpful to the uninitiated. It is a description of some sentence-building exercises based on transformational grammar used in three elementary classes, a first-second grade class, a third-fourth grade, and a fifth-sixth grade. The classes were in the demonstration school at the NDEA Elementary English Institute held at San Fernardino Valley State College during the summer of 1967. The school ran for six weeks, two hours a day, five afternoons a week. One of its purposes was to try out the Nebraska Curriculum, which includes some transformational exercises—not in order to accumulate statistics on the effectiveness of any particular techniques or materials, but to show the participants of the Institute (twenty-seven elementary teachers mostly from the Los Angeles area) how some of the ideas in the Nebraska Curriculum work out in the classroom, when used by experienced and competent teachers.[1]

Very briefly, transformational grammar is a set of rules for building sentences, rather than a procedure for cutting up already-formed sentences and labeling their parts, as are both traditional and structural grammar. The transformationalist sees all possible sentences as either kernel sentences

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[1] The teachers in the demonstration school were, in the primary class, Mrs. Susan Wasserman, Los Angeles City Schools, for two years a teacher in the Head Start Program at San Fernando Elementary School; in the third-fourth grade class, Mrs. Karen S. Moore, training and demonstration teacher at Balboa Avenue School, Northridge; in the fifth-sixth grade class, Mrs. Loretta M. Gleason, a fourth-grade teacher in Minden, Nebraska.

or transforms of kernels. A kernel sentence is a simple, affirmative, active declarative sentence, with no compound elements; it may have a direct object or a subjective complement, but no noun modifiers other than determiners and no adverbs others than place or time words (or prepositional phrases) in the predicate. (Actually, grammarians have not yet settled the matter of which adverbs should be considered part of the kernel and which ones result from transformations, but this need not worry us.) The following are kernel sentences with various types of predicates:

Johnny can read.

The teacher is reading a story.

They bought her a gift.

Susan is happy today.

The Campbells are here.

She is in the first grade.

That boy is a second-grader.

The following are all transforms:

Johnny can't read. (negative)

The story was read by the teacher. (passive)

Did she read a story? (question)

Susan and Johnny are first graders. (compound subject—result of combining the kernels *Susan is a first-grader* and *Johnny is a first-grader*)

That handsome man is my father. (The attributive adjective *handsome* comes from combining the insert sentence *The man is handsome* with the matrix sentence *That man is my father.* This example and the previous one are derived by double-base transformations, so called because they involve combining sentences.)

The first section of a transformational grammar contains rules for generating kernel sentences, ordinarily stated as formulas with symbols resembling those of algebra. Another section of the grammar consists of rules for transforming kernels in various ways. In the classes described in this article, nothing was said about the rules for generating kernel sentences. The kernels were simply taken as a starting point for transformations, and sentences like the transforms above were often taken as a starting point for further transformations. The work was all with actual sentences; no symbols, no formulas, and very little grammatical terminology were used.

II

The Primary Class

The primary class consisted of twelve Mexican-American children (six girls and six boys), all from Spanish-speaking homes, and five Negro children (four girls and one boy). Five of the pupils had finished K2 in June, five B1, three A1, and four B2. Their classroom English at the beginning, as one would expect, consisted mostly of sentence fragments —one-word or one-phrase answers to the teacher's questions. The Mexican-American children's vocabularies appeared to be very limited; a little *pocho* (mixture of English and Spanish) was evident in the speech of some. In a sense, though, it was an ideal group to work with, for the parents were pleased to have their children in school and most of the pupils were eager to learn more English.

The teacher's main aims, as far as the children's use of English was concerned, were to increase their vocabularies and to get them accustomed to speaking whole sentences. She never rejected or corrected anything a child said, but when a child's utterance was fragmentary or included a non-standard form she would often restate it in a standard, complete sentence as "another way of saying it." She often taught vocabulary and syntax simultaneously. For example, in helping the class write a thank-you letter to Geniiland, she led them to an understanding of the words *envelope, stamp, address,* and *mailbox.* When a child answered her question "Where do we mail it?" with the phrase "In a poster," she accepted the answer but in addition helped the class work out the sentence "We mail it in a mailbox."

From the beginning the teacher gave the children much practice in making not only kernel sentences but also questions, negative sentences and sentences expanded with modifiers, at first without calling their attention to sentence structure as such. One exercise, suggested in part by the Nebraska Curriculum, involved a guessing game. Working with about six children at a time, the teacher supplied each with an identical paper sack containing a different object, an object known only to the teacher and the child holding the sack. With help from the teacher, the other children asked questions—"Is it a toy?" "Is it a car?" etc.—and the child with the sack answered, "No, it is not a car" or "Yes, it is a car," etc.

It soon seemed necessary, though, to make the pupils consciously aware of the structural difference between a statement and a question, for some of the Mexican-American children were putting their questions in the form "It is a dog?" (in imitation of the Spanish pattern "¿Es un perro?" signaling the question by intonation only), rather than in the

usual English form "Is it a dog?" signaling the question with both intonation and word order. The teacher placed a sentence strip reading "Is it a dog?" on the chalkboard, read the question aloud, had the class read it, and had them give the answer. Then she cut the words of the sentence apart and asked who could show the difference between the question and the answer. A child volunteered and exchanged the positions of *Is* and *it*. (To avoid having the capital letter in the wrong place, the teacher supplied an extra *It* and *is* to substitute for the original words.) The class repeated the exercise with other sentence pairs, working both from questions to answers and from answers to questions. The exercise was sometimes varied by having the word cards held by children standing in a line. After the class had read the sentence together, a child not in the line would be asked to change the sentence to a question or an answer as appropriate; he would do so by moving the children in the line. As the next step in making the children aware of word order, the teacher cut up sentence strips ahead of time and handed the words out to the children in random order. The class arranged the children holding word cards into an order which produced a sentence and then proceeded with the question transformation. These exercises ended all problems with the word order of questions and gave the pupils a start in the conscious manipulation of sentence parts.

The teacher soon began to encourage more varied questions in the guessing game. She introduced a chart on the left side of which, printed large, were the words COLOR, SIZE, SHAPE and FEEL. Opposite COLOR were circles painted different colors; opposite SIZE was a picture of something large and one of something small; opposite SHAPE was a circle, a square, a rectangle and a triangle; opposite FEEL was a piece of yarn with the word *soft* below it, a pencil with *smooth* below it, and a piece of sandpaper with *rough* below it. Finally there was the question "What do you do with it?" Below this was a picture of some fruit with the sentence "You eat it," a boy playing ball with "You play with it," and an article of clothing with "You wear it." Before beginning the questioning the teacher elicited from the class a number of words that would answer the various questions. Then the game started, with questions like "Is it red?" "Is it smooth?" "Do you eat it?" etc.

The teacher introduced double-base transformations by having the children combine whole kernel sentences. A child would stand in front of the class holding a toy car in each hand. Pupils would be asked to identify each—"This is a grey Volkswagen," "That is a red car"—and then to join the two sentences: "This is a grey Volkswagen, and that is a red car." This exercise was not done to teach children how to join sen-

tences with *and* (as if they needed to be taught!), bu. rather to introduce sentence-combining transformations with a procedure already familiar.

The next step involved combining sentences from which a part could be deleted, producing a compound predicate, subject or complement. For example, a child standing in the center of a circle of children would perform some acts which the others would describe:

Roberto hopped.
Roberto jumped.

The class would then be asked if they could combine these sentences and would produce "Roberto hopped and jumped." On the day preceding a lunch-time visit to the college cafeteria, the children had a lesson based on what they expected to eat there. They volunteered the sentences

We are going to eat hot dogs.
We are going to eat ice cream.
We are going to drink soda pop.

Then they deleted the duplicated portion and added *and* in the right places to produce "We are going to eat hot dogs and ice cream and drink soda pop." The next day, on returning from the cafeteria, the class went over the same material in the past tense. The list of things eaten had to be extended, however, and the transform got slightly out of hand. The two levels of coordination became confused: "We drank soda pop, ate hot dogs, cake, jello, ice cream and potato chips." If left to their own devices the children would have strung all the items together with *and;* in the lesson they ended up with a sentence in which the parts of the compound predicate were not compounded (*and* is needed after *soda pop*) and therefore not kept separate from the series of direct objects, in other words with faulty parallelism. The children had simply accumulated more elements than they could easily handle in a single well-formed sentence.

Sometimes a chance incident would supply material for a transformation: "Your earring fell down" and "You took off your other earring" were joined with a comma and *so*.

For the adjective transformation the sack-guessing game again provided sentences to work with. Answers like "It is black" and "It is a train" would be written on the chalkboard and then combined by the pupils into a single answer: "It is a black train." The children learned to perform these deletion and combining transformations quickly and easily. With no prompting, one boy said "It is a space capsule. It is red and grey and black." At a hint from the teacher, he deleted and combined to produce "It is a red, grey and black space capsule." In writing these sentences on the board, the teacher was obliged to say something about

commas, such as the one replacing *and* between *red* and *grey*. Her approach was oral; she worked to get the children to hear the characteristic juncture between items spoken in a series and to see that a comma represents the juncture in writing.

The class also performed subordinating transformations. From the kernels

The hare went to sleep

The tortoise won the race

they produced "The tortoise won the race because the hare went to sleep." After the class had combined the kernels

We went to the cafeteria

We went on the elevator

to make "We went to the cafeteria and on the elevator," the teacher wrote above the transform the sentence "We didn't have a story today" and asked how to join it to the other sentence. One pupil immediately volunteered *because* as a connecting word, producing "We didn't have a story today because we went to the cafeteria and on the elevator," which fitted the facts exactly.

In summary, the transformations which the children in the primary class learned in a few lessons to do consciously and deliberately (though of course without the grammatical terminology to describe what they were doing) were the following: question, adjective (one or a series), various coordinating transformations to produce a compound subject, predicate, direct object, etc., and subordinating transformations with *because*.

Third-Fourth Grade Class

In this class there were twelve girls and six boys, all Anglo, none "disadvantaged." It was intended to be a class of average ability, but by the time the pupils were recruited it turned out to be somewhat above average.

The teacher gave the pupils transformational exercises in producing possessive nouns and pronouns, attributive adjectives, and questions. The children on their own introduced relative clauses and the expletive *there* into their transforms. They were first presented with groups of sentences such as the following on a chart and asked to combine them orally:

I have a bicycle.

The bicycle is red.

The bicycle is new.

The teacher had previously explained the formation of the possessive of nouns and personal pronouns, and in this exercise she wanted trans-

forms such as "My new bicycle is red." What she consistently got instead were sentences like "I have a new red bicycle," an equally good sentence of course, but one which by-passes the possessive transformation and makes the fact of "having" the point of the sentence.[2] Two things were apparent in the pupils' reaction to this exercise: 1) they did not readily associate *have* sentences with possessives and made the transformation only when prompted by the teacher; 2) they tended to make the first sentence in a group the matrix, that is the main clause of the transform, rather than the insert. Though the pupils were easily taught to perform the operations as desired, their reactions suggest possible changes in approach: first, in teaching possessives it might be better to drop the transformational approach entirely; second, in doing double-base transformations it might be better to give the matrix sentence first.

After the oral work, the pupils were presented with another chart containing groups of two or three sentences to be combined in writing. One such group was a sentence from Glen Rounds' *The Blind Colt,* taken apart in the Nebraska Curriculum, but not all the way down to kernels:

Daytimes there were cries of cranes.
The cranes were flying south.
Their cries were thin and rippling.

A typical pupil transform was "The cries of the cranes that were flying south were thin and rippling," which deletes the expletive and the second *cries* and makes the middle sentence a relative clause. The opening adverb *Daytimes* is unjustifiably deleted, which illustrates the discomfort the pupils showed with adverbial openers. Their sentences almost invariably began with the subject of the main clause.

On one occasion the teacher wrote the following noun phrases on the board and asked the pupils to combine the seven underlined modifiers with the headword *bird* into a single noun phrase:

the bird
the *brown* bird
the *neighbor's* bird
the *singing* bird
the bird *in the tree*
the bird *sitting on a branch*
the bird *that I saw in the distance*

[2] In the *Roberts English Series* possessive nouns and pronouns are transforms of kernel sentences with *have:* e.g. *Joe has a bike* and *The bike is blue* combine to form *Joe's bike is blue.* It seems to me the value of associating *have* sentences with the possessive is questionable in teaching, since many *have* sentences cannot be transformed into acceptable possessives (e.g. *I have time for a cup of coffee.),* and many possessives cannot be related to *have* sentences (e.g. *Brown's defeat).*

Though more a puzzle than a writing exercise, the problem did bring to the surface some of the difficulties in achieving unambiguous modification. Most of the children failed to achieve it because they separated the *that*-clause from *bird,* but one pupil did produce this acceptable solution: "the neighbor's brown bird that I saw in the distance sitting on a branch in the tree singing."

Fifth-Sixth Grade Class

This was a superior group made up of ten girls and nine boys, none of whom were Negro, Mexican-American, or "disadvantaged." The class experimented with a variety of transformations. They did the passive and *there* transformations; coordinate transformations to produce various compound elements; and other double-base transformations to produce attributive adjectives, relative clauses, participial phrases, appositives, and adverbial clauses.

To introduce the concept of transformations, the teacher began with simple adjective and coordinate transformations adapted from the pupils' own writing. She showed them how the kernel sentence "Her hair is long" could become the noun phrase "her long hair" and how "The burro was screaming" could be rewritten "the screaming burro." They combined "Meg was strong" with "Meg was short-tempered" to form "Meg was strong and short-tempered."

Then, using the overhead projector, she presented a pair of kernels such as the following, without designating one as matrix and the other as insert, and encouraged the class to combine them in as many ways as possible:

Mr. Andrews introduced the speaker.

The speaker was from Australia.

Three pupils served as recorders and wrote on the board the sentences proposed by the others. The first transform of the above example was "Mr. Andrews introduced the speaker from Australia," with deletion of subject and verb of the second sentence and incorporation of the prepositional phrase into the first sentence. At the teacher's suggestion, the pupils then converted "from Australia" to "Australian speaker" (attributive adjective), "who was from Australia" (relative clause), and "a man from Australia" (appositive). On the teacher's suggestion that the sentence might begin with a different subject, the class performed the passive transformation on the first sentence ("The speaker was introduced by Mr. Andrews") and then employed it in combination with those already illustrated (e.g. "The Australian speaker was introduced by Mr. Andrews").

Moving up a step in complexity, the teacher introduced a pair of

sentences (neither one a kernel) adapted from Marguerite Henry's story *King of the Wind:*

> Under a covered paddock Man 'o War was being saddled for his twenty-first race. He was affectionately known as Big Red.

The children quickly produced a version deleting *He was* and inserting *affectionately known as Big Red* as a non-restrictive participial phrase after *Man 'o War.* Other arrangements were suggested, most of them involving moving *Under a covered paddock* out of initial position (discomfort with an opening adverbial again). The pupils made the useful discovery that this phrase didn't work very well anywhere else in the sentence; for instance, when it was moved to the end, the sentence seemed to suggest that the race was to be run *under a covered paddock.*

After working through several sentences in this combined oral-written manner, the class was given a dittoed sheet of several groups of three sentences, each group adapted from what was a single sentence in the story being read by the class. Working individually, the children wrote transforms combining the three into a single sentence. In one instance a group of sentences containing information from a single paragraph but not a single sentence in the source prompted a useful discussion of what can and what cannot be well combined in one sentence:

> Brighty was a free-spirited burro.
>
> Brighty lived in the Grand Canyon.
>
> He was held to the Old Timer by the invisible cord of friendship.

A student suggested a transform making the complement of the first sentence an appositive and the second sentence a relative clause:

> Brighty, a free-spirited burro who lived in the Grand Canyon, was held to the Old Timer by the invisible cord of friendship.

There was obviously something awkward about this combination; the beginning and end of the sentence dealt with the burro's character, while the relative clause merely stated his place of residence. Though not pursued, the discussion might have led to a revision eliminating the relative clause and relating the first to the last element as an adverbial clause of concession:

> Though Brighty was a free-spirited burro, he was held to the Old Timer by the invisible cord of friendship.

Further deletion might then have produced, "Though a free-spirited burro, Brighty was held . . ."

The discovery of hyphenated adjectives in the story led to an exercise in producing these as transforms of *with*-phrases or relative clauses:

The baby *with the round face* smiled at me.
The man and the donkey made a pair *that looked strange.*
The salesman *who talked fast* soon sold the car.

The *round-faced baby* smiled at me.
The man and the donkey made a *strange-looking* pair.
The *fast-talking* salesman soon sold the car.

The last example gave rise to a discussion of how meaning may change when order and word form are changed, even though the word bases remain the same. It was clear that *the fast-talking salesman* implied something that *the salesman who talked fast* did not.

At the beginning of the fifth week each teacher duplicated a set of writings done thus far by her class: the primary class submitted a set of group-composed stories written down by the teacher; the third-fourth grade, a set of individually written stories using the characters and setting of *Mr. Popper's Penguins,* by Florence and Richard Atwater; the fifth-sixth grade, a group of individually written stories each embodying a moral.

Surprisingly, in the opinion of the demonstration teachers as well as the Institute participants, the fifth-sixth grade stories, though some were imaginatively conceived, were no better than those of the third-fourth grade in style and maturity of sentence structure, perhaps not as good. In a discussion of the possible reasons for this, it was generally agreed that writing to fit a moral was rather confining, but it was also felt that perhaps another reason was that the older pupils were carrying a greater load of writing inhibitions. Not only were the fifth-sixth graders two years ahead of the other class in reading, vocabulary development and maturity of thinking, but they also had the dubious advantage of two more years of red-penciling of their writing by conscientious teachers, and as a result they were perhaps "playing it safe" in a piece of writing they knew would be subject to adult scrutiny. As typical examples, here is the story by Keith, an articulate third-fourth grader, followed by that of John, one of the better fifth-sixth graders:

DANGEROUS TROUBLE
by Keith

When the penguins got off the ship they curiously waddled out, yelled a loud "ook!" and walked about in search of water. Nelson and Columbus were the first to discover water. With a loud "ork" the penguins were there. They tried to push each other off the ledge of ice, and finally managed to push Victoria off. She quickly swam downward in search of fish. All of a sudden a sea leopard darted into sight of the penguins. Quickly they jumped into

the water to save Victoria. They jumped on top of the sea leopard and killed it. They played merrily again, tobogganing and catching fish.

THE DONKEY AND THE OWL
by John

One fine day a foolish donkey spied a patch of moss at the bottom of a small lake. He asked a owl that was nearby, "I wonder what it would taste like." Upon saying this he leaped in despite the owl's warnings. He did not know how swim and was immediately drowned.

Curiosity killed the donkey.

Evidences of maturity in style are easy to see in Keith's paper: adverbials at the beginning of four out of the eight sentences; several adverbs of manner and verbs like *waddled* and *darted* (perhaps imitated from the original story); a series of three parallel verb phrases in the first sentence; a non-restrictive participial phrase in the last sentence. But John's narrative, except for two phrases probably imitated from a literary source ("One fine day" and "despite the owl's warnings"), is as flat in style as it is in content. The only stylistic feature in which the older pupils surpassed the younger ones in this set of papers was in the greater use of dialogue.

During the final week the fifth-sixth graders wrote another story, and the results were much better. There were, of course, too many variables (a different assignment, for one thing) to allow one to ascribe the difference to any particular cause. During the interval between the two assignments, however, the children had had two weeks of exercises in making transformations, and the teacher felt that this practice was at least partly responsible for freeing her pupils from the primer style of the other assignment and producing the variety and flexibility of sentence structure apparent in this paper by the same boy who wrote "The Donkey and the Owl."

Brighty visited Kaibab forest on one of his side-trips to Uncle Jim's cabin. He was eating grass at the side of a swamp when a huge bear decided to have burro meat. The bear lashed out with its paw sending Brighty skidding out over the marshy water. The terror-stricken burro churned at the swampy muck propelling himself to the middle. The bear loomed overhead, but suddenly lost its footing and slid down to its shoulders. Before it could make a move Brighty was on top of it pushing it down all the way. Uncle Jim saw what was happening and grabbed a rope off his burro and ran over and pulled the screaming burro out.

Conclusions by the Demonstration Teachers

After the school ended, the three teachers, in discussing their work with transformations, agreed generally on these points:

1. Children at all the grade levels acquired the knack of making transformations readily and liked doing them. It challenged their ingenuity. (One might add that in many instances the transformations were easy because they were not really new; they produced constructions the children had already learned to make. However, having the capability and making good use of it are not the same thing; the linguists speak of the first as competence, the second as performance. The practice in deliberately manipulating sentence parts—combining, deleting, rearranging to produce different and often better sentences —was definitely new. Possibly the most important result of exercises like those described above is that they make pupils aware of sentence form and what can be done about it.)
2. At all grade levels, it seemed desirable to start with oral work and then move to the written. (On the primary level the children compose orally, of course, and the teacher writes.)
3. The exercises seemed to be most effective when kept short and done regularly. A teacher might well introduce transformations in the fall and continue them throughout the year, gradually increasing the complexity of the transforms attempted.
4. Grammatical terms and rules are best avoided until the sixth grade. By that time the children can learn and understand them easily; before then the rules have an inhibiting effect on the pupils' writing. (This opinion may be partly due to the fact that the teachers themselves had had little formal study of transformational grammar. The *Roberts English Series* begins to introduce grammatical terms in the third grade, though of course without the definitions and rules of traditional grammar.)
5. Sentences with interesting or familiar content are preferable to ones made up just for the exercise. Working on sentence-building as a purely formal matter, with no concern for content, can be a dull and sterile business. (Sources of sentences used in the three classes were the literature read in the class, the pupils' own speaking and writing, and situations that arose in the classroom, a technique particularly exploited by the primary teacher.)
6. The transforms should often be judged in the context of the paragraph. Otherwise, the question "Which version is best?" may be pointless. Awareness of context helps the pupil remember that his goal is effective communication, not virtuosity in sentence construction.

III

At this point, some readers, reflecting upon the approach this article has been describing, may be reacting half aloud, "What's new about all that? I've been doing it for years." Wonderful! Like most other "new" developments in teaching, this one no doubt sounds like old stuff to some good teachers. It was true when structural grammar was introduced; identifying word classes by means of form and test frames was already routine for some teachers. It was also true, though, that many teachers had not been identifying word classes in these ways—or indeed in any way—and it is true today that many teachers are not teaching sentence-building by means of transformations, or indeed by any means.

For teachers who have been using transformations without realizing it, the advent of transformational grammar places their work on a solid basis of linguistic fact and theory. "Thinking transformationally" will enable them, and all of us, to see similarities and regularities in sentence structure that we had not been aware of before. From the transformational view, every sentence is either a kernel or a transform, and there are easily describable relationships between sentences in a set, for example between the various questions that can be derived by transformations from a declarative source sentence like "John went to Eureka yesterday":

(1) Who went to Eureka yesterday?

(2) Where did John go yesterday?

(3) When did John go to Eureka?

(4) Did John go to Eureka yesterday?

In the first three the question is signaled by a question word, and that word comes first in the new sentences. In (1), where the grammatical subject is questioned, no change is required except to replace *John* with *who*. In (2) and (3) the place and time, respectively, are questioned, and three changes are required for each. First, the appropriate question word is substituted for the adverbial *to Eureka* or *yesterday*. Second, the question word is moved to the beginning of the sentence. And third, the positions of John and the first auxiliary verb are reversed; but since there is no auxiliary verb in this source sentence, the appropriate form of *do* is inserted instead, to carry the tense. In (4), a yes-no question, only the last two steps are required, but normally the question is signaled also by a change in the intonation pattern.

Consider another example. Even though we may have taught, say, the relative clause as a sentence-combining transformation (without calling it that), we may not have seen the relative clause as only one in a whole series of related transformations that could be applied to the same mate-

rial. Suppose we start with the following matrix and insert sentences (not themselves kernels):

My uncle does not smoke cigarettes.

He is a very intelligent man.

We may combine them in various ways:

(1) My uncle, who is a very intelligent man, does not smoke cigarettes. (The insert becomes a non-restrictive relative clause.)

(2) My uncle, a very intelligent man, does not smoke cigarettes. (It becomes an appositive, sort of stream-lined relative clause.)

(3) My uncle, being a very intelligent man, does not smoke cigarettes. (Now it is a participial phrase, suggesting a cause-and-effect relationship.)

(4) My uncle, because he is a very intelligent man, does not smoke cigarettes. (Now, as an adverbial clause, it makes the cause-and-effect relationship explicit.)

(5) My very intelligent uncle does not smoke cigarettes. (Here it has been condensed into an attributive adjective, the most concise way to handle the information but not always an appropriate way, for reasons we cannot go into here.)

In (3) and (4) the modifier can be shifted to the front of the sentence, often a convenient place for "sentence modifiers" like these.

For those who wish to read more about transformational grammar and its applications to composition, here are a few books and articles which may be helpful. I omit the more theoretical and technical works of the professional linguists.

Borgh, Enola M. "The Case for Syntax," *Elementary English* XXXXII (January 1965), 28-34. On the same kinds of procedures as those described in the present article.

————. *Grammatical Patterns and Composition,* Wisconsin Council of Teachers of English, Oshkosh, 1963. A pamphlet on transformations at the high school level. Available for $1 from NCTE, 508 South Sixth St., Champaign, Ill. 61820.

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teaching transformations to seventh graders. They wrote more mature sentences at the end.

O'Donnell, Roy C., William J. Griffin and Raymond C. Norris. *Syntax of Kindergarten and Elementary School Children: A Transformational Analysis.* Champaign: NCTE, 1967. A study of the oral sentence structure of 180 children in kindergarten and Grades 1, 2, 3, 5, and 7 and the written sentence structure of the same children in Grades 3, 5, and 7. Similar to Hunt's study.

Roberts, Paul. *English Sentences.* New York: Harcourt, Brace & World, 1962. Chapters 10-14, 32. The first high-school text to include transformations.

———. *The Roberts English Series,* Teacher's edition, Grades 3-9. New York: Harcourt, Brace and World, 1966. A teacher might well begin with Grade 6, studying first the section in the back which reviews earlier volumes. There is also a supplementary manual of exercises for those beginning the series at Grade 4, 5, or 6 entitled *Transformational Grammar: Background for Teachers,* by Roberts and Mary M. Ross, same publisher.

Rogovin, Syrell. *Modern English Sentence Structure.* New York: Random House, 1964. Programmed secondary text of transformational grammar.

Thomas, Owen. *Transformational Grammar and the Teacher of English.* New York: Holt, Rinehart and Winston, 1965. Despite an excess of formalism (symbols, formulas, "strings"), it is a usable introduction.

Zidonis, Frank J. "Generative Grammar: A Report on Research," *English Journal* LIV (May 1965) 405-409. Shows that a group of ninth graders taught transformational grammar improved their writing more than a control group taught traditionally